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ABSTRACT

Noting that lack of student motivation is one of the primary reasons students drop out of school and that lack of student motivation is particularly evident at the onset of adolescence, this study compared multidimensional motivation gains of middle school students who were heterogeneously grouped according to motivational level to gains of those who were grouped homogeneously. It was hypothesized that in a cooperative learning activity, peer pressure would cause students with lower motivation to become more motivated when working in a peer group of higher motivated students. Participating in the study were 43 students in 2 sixth-grade language arts classrooms. Students participated in a word study cooperative grouping activity 20 minutes each day for 8 weeks. At the end of each 2-week block, students were tested individually on their assigned list of words. The groups were awarded points for favorable behavior, activity completion, and improved test scores. Group point standings were posted on a classroom chart. Three- to four-person student groups were established based on motivational level as measured with the Multidimensional Motivation Instrument (MMI). The MMI was re-administered at the end of the 8-week activity. The findings of this inquiry indicated there was no distinction between the multidimensional motivation increase of heterogeneously and homogeneously grouped students. There was an increase among most students of multi-dimensional motivation and academic performance. It is possible to conclude that academic and multidimensional motivation improvements were a function of the cooperative activity and not the specific grouping strategy. (Contains 78 references.) (KB)

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MOTIVATING MIDDLE GRADES STUDENTS USING A COOPERATIVE LEARNING APPROACH

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Introduction

On December 10, 1998, the U.S. Bureau of the Census reported that in 1998, only 88.1 percent of people (all races and sexes) who were between ages 25 to 29 had completed at least four years of high school. Moreover, 10,249 students in tenth-, eleventh-, and twelfth-grade (all races and sexes) dropped out of school in 1996 (U.S. Bureau of the Census, 1998). One of the primary reasons that students dropout of school is a lack of motivation. The term dropout, however, "may not be adequate to convey the disastrous consequences of abandonment of school by children and adolescents; educational suicide may be a far more appropriate label" (Clifford, 1990, p. 22).

"School abandonment is not confined to a small percentage of minority students, or low ability children, or mentally lazy kids. It is a systematic failure affecting the most gifted and knowledgeable as well as the disadvantaged, and it is threatening the social, economic, intellectual, industrial, cultural, moral, and psychological well-being of our country. Equally disturbing are the students who sever themselves from the flow of knowledge while they occupy desks, like mummies" (Clifford, 1990, p. 22).

Many experts in the field of education have identified a lack of student motivation as a major reason for low achievement scores and school dropout rates, but the consequence of decreased student motivation is not limited just to those items. Without a desire to learn, students who attend class will often not learn. As a result, students may even obtain a high school diploma and still lack the basic skills needed to survive in the workplace (Gonder, 1991, p. 4; Hootstein, 1994, p. 213).

Lack of motivation is particularly evident at the onset and passage through adolescence. All body systems and sub-systems are affected when puberty is reached.

Students who were previously driven with intense curiosity are now unwilling to participate in arising opportunities to explore. At this level, traditional classes are boring and offer little or no connection to the lives of students outside of the classroom. Teaching students in this stage of development can be very challenging. Students who were pleasant and amiable become more irritable, quarrelsome, and sometimes obnoxious during this period. These behaviors are caused by the stress of physiological maturation. Unfortunately, teachers who do not fully understand this natural process further degrade their students' feelings about education by offering undue resistance (Lumsden, 1994, p. 1; Sanders, 1995, pp. 4-6; Sanders, 1995, p. 21).

During adolescence, peer pressure exerts a significant influence on the academic behavior of students and can decide the path a student will choose toward academic achievement and effort. Peer pressure can potentially place education in a positive light, but usually, rejects academic success. In the event that peers become supportive of academics, gains in motivation can occur; however, this is often not the case (Gonder, 1991, pp. 4-5; Sanders, 1995, p. 13; Corno, 1992, p. 78).

One of our nation's foundational philosophies is that education for all is necessary in a democratic government. National survival hinges on the success or failure of our educational system. Raising student motivation in our public schools is an essential element in ensuring progress. In the event that positive peer influence could be used to elevate student motivation, our nation would see vast gains. Cooperative learning is a tool that has been used for the last 20 years to provide positive interaction among students.

Cooperative learning activities require students to interact within heterogeneous groups. When student groups exist over a long period, students form a bond with the peers they are exposed to in their group. (Slavin, 1991, p. 9) It may be possible for students who exhibit a high motivation for learning to positively influence students who are not as motivated to succeed in school. If this is the case, grouping students according to motivational levels may prove to be more beneficial than the accepted method of grouping students by ability or by social status.

Rationale

During adolescence, "the academic achievements of students may rise and fall due to the perceived quality of their social life." Students need to feel accepted by their peers and are willing to display qualities that adults consider detrimental. (Strahan & Van Hoose, 1995, p. 27, 29) For this reason, students need to be immersed in an environment that places value on academic achievement.

Cooperative learning is a vessel that fosters unity among students. Cooperative learning activities require students to interact within heterogeneous groups. When these groups exist over a long period, students form a bond with the peers they are exposed to in their group. (Slavin, 1991, p. 9) It may be possible for students who exhibit a high degree of motivation for learning to positively influence students who are not as motivated to succeed in school. Therefore, grouping students according to motivational levels may prove to be more beneficial than the accepted method of grouping students by ability or by social status.

A Review of the Literature

Motivation is a term that is difficult to define. Upon drawing from a variety of sources, the term motivation, as related to education, can be captured best as a student's "desire to participate in the learning process" (Lumsden, 1994, p. 1). Moreover, a more specific definition classifies motivation as either extrinsic or intrinsic (Sanders, 1995, p. 4; Corno, 1992, p. 71).

A student who is extrinsically motivated "performs [a task] in order to obtain some reward or avoid some punishment external to the activity itself" (Lumsden, 1994, p. 1). Many researchers have recently agreed that extrinsic rewards are ineffective and only change behavior temporarily. These researchers argue that people revert to their previous behavior when the rewards are discontinued (Kohn, 1993, p. 784). In addition, people who are given extrinsic rewards for a behavior they are likely to do anyway will perform that previous behavior only for the reward. In essence, "the reward extinguishes the behavior" (Bracey, 1994, p. 494). There are still arguments, however, that support extrinsic rewards.

Supporters of extrinsic motivation argue that rewarding behavior intermittently strengthens behavior, even when rewards are no longer available. In order for this to occur, the intervals of reward frequency need to increase over time. Additionally, they argue that extrinsic rewards may be necessary in order to supply students with basic skills necessary for tasks that are more complex (Chance, 1993, pp. 788-789).

An intrinsically motivated student "undertakes an activity for its own sake, for the enjoyment it provides, the learning it permits, or the feelings of accomplishment it evokes" (Lumsden, 1994, pp. 1). Research indicates that intrinsically motivated

"students tend to employ strategies that demand more effort and that enable them to process information more deeply" (Lumsden, 1994, pp. 2). These students use strategies of acquiring information and making decision that are more logical than extrinsically oriented students do. Intrinsically motivated students seek out challenging tasks and exhibit more effort (Lumsden, 1994, pp. 1-2).

Some researchers state that students cannot be classified as either intrinsically or extrinsically motivated. They believe that motivation is not based on a personality type, but is rather a function of the task at hand. (Miller, 1995, p. 20).

According to Wlodkowski (1990), teachers cannot directly motivate students because individuals are responsible for their own learning. Teachers can influence students, but they cannot be internally motivated. True self-affirmation occurs through responsibility, but not through obedience. Consequently, these statements relieve the blame often placed on teachers when students do not perform well (Sanders, 1995, p. 12).

William Glasser agrees that teachers cannot cause students to be internally motivated. Choice theory (formerly called control theory) states that individuals must satisfy at least one of five basic needs in order to be internally motivated. Glasser currently defines these five basic needs (which have redefined over the past several years) as "survival, love and belonging, power, freedom and fun" (The William Glasser Institute, 1999).

Other researchers disagree that students are only motivated internally and believe that teachers can and should motivate students. Sanders (1995) states that teachers are powerful role models, despite influence exerted by peers. Furthermore, it is important to

realize that motivation is learned (Sanders, 1995, p. 11). This debate can be supported on either side by several factors that cause students to exhibit a higher or lower motivation.

Students who are held to low standards perform to low standards. Challenging students within reason will usually cause students to rise to the challenge (Gonder, 1991, p. 3). The level of work reflects the level of effort. Students who expend little effort experience small amounts of success. Students who successfully expend larger amounts of effort experience greater amounts of success. Greater amounts of success will yield in a higher level of confidence, raising the students' self-esteem. A higher self-esteem results in a higher level of motivation (Sanders, 1995, p. 19).

Students who are tracked display lower motivation in school. Remedial classes move at a slower rate and practice lower order thinking skills. Eventually, these students become permanently trapped in an "intellectual prison" (Gonder, 1991, p. 4).

Giving students control over their learning has been demonstrated to increase motivation. Students need to be given a choice in what and how they learn. Furthermore, when students control their own learning experience, they develop an intrinsic desire to learn (Bartscher, Gould, & Nutter, 1995, p. 27).

Often, overextended teachers and schools lack focus on the individual. Schools become institutionalized and students feel like "just another number." When given large classes, teachers assign less work because of heavy class loads. In smaller class sizes, teachers can create personalized instruction and offer personal feedback on assignments. In smaller classes, students feel like they are in an environment where someone (the teacher) cares about them (Gonder, 1991, p. 11).

Lesson presentation plays an important role in motivating students. When teachers can relate curriculum to the lives of the students outside of the classroom, students display more interest. Students who see little connection between classroom learning and their lives outside of school quickly become bored and unproductive (Sanders, 1995, p. 15). William Glasser states that "until students are able to see the practical benefits of their education, they will continue to lack a fundamental desire to cooperate with the school system" (Bartscher, Gould, & Nutter, 1995, p. 27).

When teachers present material enthusiastically, student interest is peaked (Gonder, 1991, p. 15). Additionally, when teachers are enthusiastic about their lesson content, students also exhibit enthusiasm toward the content. Conversely, if teachers exhibit a negative attitude toward their content, the students will feel that the content is not interesting and not worth learning (Sanders, 1995, p. 26).

Clear learning objectives must be stated at the outset of each lesson. This gives students an introduction to the content and students can understand the purpose of the lesson. Finally, students can develop a general sense of the desired learning outcomes (Gonder, 1991, p. 15).

Give students an active voice in the classroom and encourage students to respond and take risks. When students make an error, emphasize that errors are a valuable learning experience. When students give correct and/or well thought out information, provide some type of positive response (praise) (Gonder, 1991, p. 16). Praising students causes students to exhibit desired behaviors. Additionally, "praising and encouraging students is a way for the student to become better aware of your expectations and their own achievements" (Sanders, 1995, p. 27).

Parents offer a very influential force in motivating their children. In order to use parents as motivators, they must be involved in their child's education. Invite parents into the classroom as either an observer or a volunteer. Any volunteerism should be meaningful; avoid assigning menial tasks to parent volunteers. Furthermore, teachers and schools need to communicate with parents frequently. When communicating with parents, inform parents about poor, as well as positive behavior. Finally, provide parents with advice on how they can help their child at home (Gonder, 1991, pp. 21-22).

A student's peer group can have an intense effect on the degree to which academic achievement is valued. Peer groups that value academics are supportive, but peer groups that disdain academic achievement condemn those who do achieve (Gonder, 1991, pp. 4-5).

Active learning such as cooperative learning can raise motivation. Students who show little motivation or interest become "conscientious when faced with peer pressure and the opportunity to succeed in their assigned group" (Miller, 1995, p. 57). Students are heterogeneously grouped according to either academic ability or social standing. It is important to note that cooperative learning is more than telling student to push their desks together for group work (Blosser, 1996, p. 1).

Active learning such as cooperative learning can raise motivation. Students who show little motivation or interest become "conscientious when faced with peer pressure and the opportunity to succeed in their assigned group" (Miller, 1995, p. 57). Students are heterogeneously grouped according to either academic ability or social standing. It is important to note that cooperative learning is more than telling student to push their desks

together for group work (Blosser, 1996, p. 1). In order for cooperative learning to be successful, it needs to be implemented correctly.

David and Roger Johnson and Robert Slavin have done extensive research in the field of cooperative learning. According to the Johnsons, cooperative learning has four basic elements: (1) "interdependence among students seeking mutual goals through combining efforts, (2) face-to-face interaction among students, (3) individual accountability for mastery of the material covered, and (4) appropriate use of interpersonal and small-group skills by students" (Blosser, 1996, p. 2). There are additional elements which are important: instructional objectives must be specified; students must be placed in appropriate groups; tasks must be explained to students; cooperative methods for achieving desired tasks must be explained to students; progress must be monitored; intervene to provide assistance; and evaluate student achievement using student input.

Slavin states that there are two critical elements in using cooperative learning: (1) a group goal must be present and (2) "individual accountability must be necessary-the success of the group must depends on the individual learning of all group members" (Blosser, 1996, p. 2). Absence of either of these conditions lessens the effectiveness of the method. "Slavin is critical of any research reports on cooperative learning that do not last at least four weeks" (Blosser, 1996, p. 6). Past studies of cooperative learning that used a period of less than four weeks yielded no remarkable improvements.

There are several different theories on what motivation is and how it can be improved. Some researchers believe that motivation stems from extrinsic sources and others argue that motivation occurs only when intrinsic in nature. Some researchers

believe that peers and educators can motivate students while other researchers argue that students cannot be motivated by others people. It is clear that there are conflicting opinions on motivation, but an examination of the strengths and weaknesses behind each argument provide for a neutral approach to the problem (Sanders, 1995, p. 30).

Problem Statement

The purpose of this study was to compare multidimensional motivation gains of middle school students who were heterogeneously grouped according to motivational level against those who were grouped homogeneously. By utilizing a cooperative learning activity, it was thought that peer pressure would cause students of a lower motivation to become more motivated when working in a peer group of higher motivated students.

Methodology

This study was conducted using two sixth grade language arts classrooms consisting of a total of 43 students. A cooperative grouping activity was used in this study that incorporated the critical elements required by Slavin's and the Johnsons' cooperative learning models. The activity spanned the course of eight weeks and the students spent approximately twenty minutes each morning working within their cooperative groups.

The cooperative grouping activity centered on word study. Students groups were assigned a set of twenty to thirty words every two weeks. During that time, groups worked on activities identified by a word study activities list. At the end of each two-week block, students were given individual tests on their assigned list of words.

A scoring criteria was established that caused groups to compete against each other. Point accumulations were awarded when student groups exhibited favorable behavior, completed the designated quantity of word study activities, completed word study activities beyond the required amount, and/or improved on word study tests. Group point standings were recorded and reported daily on a chart that was clearly visible at all times in the classroom. Completion of the word study activities list and test scores affected each individual's grade; however, point accumulation and standings had no affect on academic grades.

During the activity, students were encouraged to work together within their groups, however no tangible/extrinsic rewards were promised or awarded. The reward for success was praise and recognition daily, weekly, and at the end of the activity.

Student groups were established according to their level of motivation measured with the Multidimensional Motivation Instrument (MMI). A multidimensional instrument was used to obtain a broader perspective of individual motivation. The MMI was reported to measure "motivational constructs of social, emotional, and physical self-concept; locus of control; and achievement motivation, among others" (Uguroglu, Schiller, & Walberg, 1981, p. 280).

Between both class periods, students were placed into four-person groups and one three-person group, yielding a total of 11 groups. Student groups were established using the Multidimensional Motivation Instrument (MMI) scores that provided a range of differences among group members. The ranges between the highest and the lowest motivated student within each group (i.e., the highest motivated group member minus the lowest motivated group member) were 5, 5, 16, 20, 20, 23, 28, 30, 36, 39, and 41. Upon culmination of the eight-week cooperative learning activity, student motivation scores were remeasured using the MMI.

Analysis and Results

Significance of Multidimensional Motivation Instrument (MMI) Improvement Scores

The data collected was from the pre-activity and post-activity student scores of the Multidimensional Motivation Instrument (MMI). When using a univariate analysis of variance to compare MMI scores:

- groups of initially tight motivation scores compared with groups of initially broad motivational scores yielded a significance of 0.829.
- the change of initially low motivated students compared with the change of scores of initially high motivational scores yielded a significance of 0.894.
- pre-activity and post-activity student motivation scores of all students yielded a significance of 0.006.

Significance of Test Score Improvements

Test score improvements were also evaluated. When using paired samples tests to compare student test scores:

- the 1st set of grades compared to the 2nd set of grades yielded a t of -4.927 with a significance of 0.000.
- the 2nd set of grades compared to the 3rd set of grades yielded a t of +2.489 with a significance of 0.017.
- the 3rd set of grades compared to the 4th set of grades yielded a t of -4.533 with a significance of 0.000.
- the 1st set of grades compared to the 4th set of grades yielded a t of -4.789 with a significance of 0.000.

Reliability of the Multidimensional Motivation Instrument (MMI)

When examining the Multidimensional Motivation Instrument's (MMI) test-retest reliability, Uguroglu, Schiller, & Walberg reported an alpha of 0.56 using 115 students in grades 3-8. The instrument's alpha during this study using 43 students was calculated to be 0.7807.

Summary and Conclusions

This study compared multidimensional motivation gains of middle school students who were heterogeneously grouped according to motivational level against those who were grouped homogeneously. By utilizing a cooperative learning activity, it was thought that peer pressure would cause students of a lower motivation to become more motivated when working in a peer group of higher motivated students.

The findings of this inquiry indicate that there was no distinction (sig.=0.894) between the multidimensional motivation increase of heterogeneously grouped students when compared with those students grouped homogeneously. There was, however, an increase among most students of multidimensional motivation (sig.= 0.006) and academic performance (sig.= 0.000).

The study's results indicate that the original objective of the study was unsuccessful. However, further examination of the collected data indicates that both academic and multidimensional motivation improvement were present among most students. Therefore, it is possible to conclude that academic and multidimensional motivation improvements were a function of the cooperative activity and not the specific grouping strategy.

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